

US Patent Application No. 09/888,166
Reply to Final Office Action of April 21, 2006

Attorney Docket No. 2000-0497 / 24061.330
Customer No. 42717

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A computer-based method of data replication in a programmable computer system comprising the steps of:
 - polling a transaction log file of a non-relational database of a proprietary system at a time interval for file transactions of the non-relational database by at least one data replication server not running the non-relational database;
 - responsive to detecting file transactions of the non-relational database, reading the file transactions from the transaction log file of the non-relational database by the at least one data replication server and determining if the file transactions indicate a change in the non-relational database; and
 - if the file transactions indicate a change in the non-relational database, sending the file transactions from the at least one data replication server to at least one relational database, wherein the file transactions of the non-relational database sent to the at least one relational database are accessible in real time.

2. (Previously Presented) The computer-based method of claim 1, wherein the file transactions sent from the at least one data replication server to the at least one relational database are sent via respective relational database connections utilizing a relational database access protocol.

3. (Previously Presented) The computer-based method of claim 1, wherein the at least one relational database being a relational database selected from the group consisting of: an Engineer Data Analysis (EDA) relational database, and a Manufacture Execution System (MES) relational database.

4. (Previously Presented) The computer-based method of claim 1, wherein the reading step comprises:

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retrieving a configure file indicating from which table of the non-relational database is data to be replicated and to which of the at least one relational database is data to be replicated;
initializing a configure variable; and
connecting to the at least one relational database.

5. (Previously Presented) The computer-based method of claim 4, wherein reading step further comprises:

retrieving a last applied transaction log sequence number from a last update file;
opening the transaction log file; and
locating a last applied record based on the last applied transaction log sequence number.

6. (Previously Presented) The computer-based method of claim 5, wherein the determining step comprises:

retrieving a next transaction record;
determining if a record type of the next transaction record is one of a delete, put, and update; and
determining from the configure file if the next transaction record is to be at least one of deleted, put, and updated in the at least one relational database.

7. (Previously Presented) The computer-based method of claim 1, wherein more than one of the at least one data replication server update one of the at least one relational database at a same time.

8. (Previously Presented) The computer-based method of claim 1, wherein the at least one relational database is accessible using an end user query tool.

9. (Currently Amended) The computer-based method of claim 1, wherein the at least one relational database data replication server generates at least one real time report.

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10. (Previously Presented) The computer-based method of claim 1, wherein the reading step is performed using at least one data extraction function of the proprietary system.

11. (Previously Presented) The computer-based method of claim 1, further comprises:
sending a real time equipment status from the at least one data replication server to the at least one relational database.

12. (Previously Presented) The computer-based method of claim 1, wherein the change in the non-relational database comprises a change in a field of a table of the non-relational database.

13. (Previously Presented) The computer-based method of claim 6, wherein the determining step further comprises writing the transaction log sequence number to the last update file.

14. (Currently Amended) A data processing computer-based system for data replication in a sub-system; the data processing computer-based system comprising:

polling means for polling a transaction log file of a non-relational database of a proprietary system at a time interval for file transactions of the non-relational database by at least one data replication server not running the non-relational database;

responsive to detecting file transactions of the non-relational database, reading means for reading the file transactions from the transaction log file of the non-relational database by the at least one data replication server and determining means for determining if the file transactions indicate a change in the non-relational database; and

if the file transactions indicate a change in the non-relational database, sending means for sending the file transactions from the at least one data replication server to at least one relational

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database through at least one respective communication link, wherein the file transactions of the non-relational database sent to the at least one relational database are accessible in real time.

15. (Previously Presented) The computer-based system of claim 14, wherein the at least one data replication server poll the transaction log file by at least one respective polling means; the file transactions of the non-relational database are sent from the at least one data replication server to the at least one relational database via respective relational database communication connections utilizing a relational database access protocol.

16. (Previously Presented) The computer-based system of claim 14, wherein the at least one relational database being a relational database selected from the group consisting of: an Engineer Data Analysis (EDA) relational database, and a Manufacture Execution System (MES) relational database.

17. (Previously Presented) The computer-based system of claim 14, wherein the reading means comprises:

retrieving means for retrieving a configure file indicating from which table of the non-relational database data is to be replicated and to which of the at least one relational database data is to be replicated;

initializing means for initializing a configure variable; and

connecting means for connecting to the at least one relational database.

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18. (Previously Presented) The computer-based system of claim 17, wherein the reading means further comprises:

retrieving means for retrieving a last applied transaction log sequence number from a last update file;

opening means for opening the transaction log file; and

locating means for locating a last applied record based on the last applied transaction log sequence number.

19. (Previously Presented) The computer-based system of claim 18, wherein the determining means comprises:

retrieving means for retrieving a next transaction record;

determining means for determining if a record type of the next transaction record is one of a delete, put, and update; and

determining means for determining from the configure file if the next transaction record is to be at least one of deleted, put, and updated in the at least one relational database.

20. (Previously Presented) The computer-based system of claim 14, wherein more than one of the at least one data replication server update one of the at least one relational database at a same time.

21. (Previously Presented) The data processing computer-based system of claim 14, wherein the at least one relational database is accessible using an end user query tool.

22. (Currently Amended) The computer-based system of claim 14, the at least one ~~relational database~~ data replication server generates at least one real time report.

23. (Previously Presented) The computer-based system of claim 14, wherein the reading means is performed using at least one data extraction function of the proprietary system.

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24. (Previously Presented) The computer-based system of claim 14, wherein the change in the non-relational database comprises a change in a field of a table of the non-relational database.

25. (Previously Presented) The computer-bases system of claim 19, wherein the determining means further comprises writing means for writing the transaction log sequence number to the last update file.

26. (Previously Presented) The computer-based system of claim 14, further comprises:
sending means for sending a real time equipment status from the at least one data replication server to the at least one relational database.

27. (Previously Presented) The computer-based system of claim 14, wherein more than one of the at least one data replication server update more than one of the at least one relational database at a same time.